

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application. The amendments find full support in the specification and/or claims as originally filed.

**Listing of Claims:**

1-20. (Cancelled)

21. (New) An apparatus for determining a currently optimal advertisement for an Internet Merchant website through controlled experimentation, the apparatus comprising:

(1) an eCommerce system; the eCommerce system comprising:

(a) a webserver;

(b) an application server configured to perform business logic; and

(c) a manager console; and

(2) a dynamic advertising system; the dynamic advertising system comprising:

(a) a server module, the server module comprising:

(i) a dynamic sampling engine; and

(ii) a logic module;

wherein, during an experiment, the eCommerce system and the dynamic advertising system are configured to:

- (a) receive input experimental parameters at the manager console to configure the experiment, wherein the input experimental parameters comprise a sampling strategy;
- (b) receive the input experimental parameters at the dynamic sampling engine, wherein the dynamic sampling engine produces and outputs a plurality of experimental advertisements according to the input experimental parameters;
- (c) respond to web page requests received at the webserver from customers by passing a sample of the web page requests through the application server to the dynamic sampling engine according to the input experimental parameters, wherein the dynamic sampling engine samples via the webserver randomly distributing web pages comprising the plurality of experimental advertisements, one of the plurality of experimental advertisements being output per received user web page request in the sample of the web page requests;
- (d) utilize the logic module to determine a quantifiable interest for each of the plurality of experimental advertisements; and

(e) utilize the logic module to determine a currently optimal advertisement from the plurality of experimental advertisements via an objective function;

wherein, at the conclusion of the experiment, the currently optimal advertisement is returned as a default advertisement in response to subsequent customer web page requests.

22. **(New)** The apparatus according to claim 21, wherein the quantifiable interest comprises a click-through rate; and wherein the sampling strategy comprises different forms and formats of an advertisement to be included in the plurality of experimental advertisements.

23. **(New)** The apparatus according to claim 21, wherein the currently optimal advertisement optimizes a buy-rate.

24. **(New)** The apparatus according to claim 21, wherein the currently optimal advertisement optimizes a combination of a click-through rate and a buy-rate; and wherein, the currently optimal advertisement is determined by the logic module using a weighted formula.

25. **(New)** The apparatus according to claim 21, wherein, at the conclusion of the experiment, the currently optimal advertisement is returned as a default advertisement in response to subsequent customer web page requests only if a minimum threshold is achieved, wherein the minimum threshold is a predetermined percentage better than a current default advertisement.

26. **(New)** The apparatus according to claim 21, wherein the web page requests received at the webserver from the customers are grouped according to at least one variable, the at least one variable being selected from: income group, zip code, profession, and buying history; and wherein the experiment is performed on only one group.

27. **(New)** The apparatus according to claim 21, wherein the web page requests received at the webserver from the customers are grouped according to at least one variable, the at least one variable being selected from: income group, zip code, profession, and buying history; and wherein the experiment is run on all groups.

28. **(New)** The apparatus according to claim 27, wherein each group receives a different plurality of experimental advertisements.

29. **(New)** The apparatus according to claim 27, wherein, at the conclusion of the experiment, a currently optimal advertisement for a group is returned as a default advertisement in response to subsequent customer web page requests from customers similarly grouped.

30. **(New)** A method for determining a currently optimal advertisement for an Internet merchant website through controlled experimentation, the method comprising:

(1) conducting an experiment to determine a currently optimal advertisement, the experiment comprising:

(a) receiving input experimental parameters at a manager console to configure an experiment, wherein the input experimental parameters comprise a sampling strategy;

(b) receiving the input experimental parameters at a dynamic sampling engine, wherein the dynamic sampling engine produces and outputs a plurality of experimental advertisements according to the input experimental parameters;

(c) responding to web page requests received at a webserver from customers by passing a sample of the web page requests through an application server to the dynamic sampling engine according to the input experimental parameters, wherein the dynamic sampling engine samples via the webserver randomly distributing web pages comprising the plurality of experimental advertisements, one of the plurality of experimental advertisements being output per received user web page request in the sample of requests;

(d) utilizing a logic module to determine a quantifiable interest for each of the plurality of experimental advertisements; and

(e) utilizing the logic module to determine the currently optimal advertisement from the plurality of experimental advertisements via an objective function; and

(2) utilizing the currently optimal advertisement determined in (1) as a default advertisement, wherein, at the conclusion of the experiment, the currently optimal

advertisement is returned as the default advertisement in response to subsequent customer web page requests.

31. **(New)** The method according to claim 30, wherein the quantifiable interest comprises a click-through rate

32. **(New)** The method according to claim 30, wherein the currently optimal advertisement optimizes a buy-rate.

33. **(New)** The method according to claim 30, wherein the currently optimal advertisement optimizes a combination of a click-through rate and a buy-rate; and wherein, the currently optimal advertisement is determined by the logic module using a weighted formula.

34. **(New)** The method according to claim 30, wherein, at the conclusion of the experiment, the currently optimal advertisement is returned as a default advertisement in response to subsequent customer web page requests only if a minimum threshold is achieved, wherein the minimum threshold is a predetermined percentage better than a current default advertisement.

35. **(New)** The method according to claim 30, wherein the web page requests received at the webserver from the customers are grouped according to at least one variable, the at least one variable being selected from: income group, zip code, profession, and buying history; and wherein experiment is performed only on one group.

36. **(New)** The method according to claim 30, wherein the web page requests received at the webserver from the customers are grouped according to at least one variable, the at least one variable being selected from: income group, zip code, profession, and buying history; and wherein the experiment is run on all groups.

37. **(New)** The method according to claim 36, wherein each group receives a different plurality of experimental advertisements.

38. **(New)** The method according to claim 36, wherein, at the conclusion of the experiment, a currently optimal advertisement for a group is returned as a default advertisement in response to subsequent customer web page requests from customers similarly grouped.

39. **(New)** The method according to claim 30, wherein an Internet Merchant employee with manager level access can conduct and monitor the experiment via the manager console; and

wherein the web page requests received at a webserver from customers are requests for the Internet merchant website.

40. **(New)** The method according to claim 30, wherein the (1) conducting an experiment to determine a currently optimal advertisement step further comprises:

first performing steps (a)-(e); and

thereafter reiterating steps (a)-(e) with a smaller sample of web page requests.